Study of Antimicrobial Resistance Pattern of Pseudomonas aeruginosa Isolated From Various Clinical Infection, in Imam Khomaini Hospital, Tehran, Iran

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Background & Objectives: Bacteria of the genus Pseudomonas specially *Pseudomonas aeruginosa* is important nosocomial pathogen that cause many different clinical infection in hospitalized patient .because of their ability to develop resistance to the major group of antibiotics, proper treatment has significant role in limiting of infections most infections are caused by multidrug resistant strains and their curation is difficult. This study was carried out to investigate antimicrobial resistance pattern among the isolates of *Pseudomonas aeruginosa* from various clinical infections in Imam Khomaini hospital in Tehran.

Methods: Between 280 positive cultures were isolated in 1390 from clinical sample (wound, body, abscess and other body fluid) the antimicrobial susceptibility of *P.aeruginosa* was determined by Kirby-Bauer disk diffusion Methods in accordance with the Clinical and Laboratory Standards Institute guidelines. *P.aeruginosa* ATCC 27853 was used as a control for antimicrobial susceptibility testing.

Results: The most important finding of our study is that a considerable proportion of the studied P.aeruginosa isolates were resistant to most current antibiotics. Among the isolates all (100%) were resistant to Ampicillin+sulbactam, 270 (96.43%) were resistant to Co-trimoxazole, 170 (61%) to Gentamicin and Ceftriaxone, 55 (19.64%) to Carbapenem, low resistance to Imipenem 20 (7.1%) also was seen. These data provide useful information for clinicians in determining the appropriate empirical antimicrobial regimen, and help authorities to formulate antibiotic prescription policies.

Conclusion: The incidence and distribution of resistance *P.aeruginosa* infections state needing for a surveillance control in hospitals. Perpetual monitoring of antimicrobial resistance and adherent to infections guideline are the most important rules to prevent and limit most infections include P.aeruginosa infections and using of combined effective antibiotics is recommended.

Keywords: *Pseudomonas aeruginosa*; Clinical Infection; Antibiogram Pattern